

LISTING OF CLAIMS

1. (currently amended) A neutralizing bispecific fusion protein capable of binding to two sites on gp120, comprising a first binding domain capable of binding to an inducing site on gp120, thereby exposing an induced epitope of gp120; a second binding domain capable of forming a neutralizing complex with the induced epitope of gp120; and a linker connecting the first domain to the second domain, wherein the first binding domain is ~~derived from a CD4 molecules~~CD4, and the second binding domain ~~comprises a binding portion of a variable region of an antibody heavy or light chain~~is SCFv(17b).

2-18. (canceled)

19. (currently amended) A protein according to claim 1, wherein the ~~second binding domain~~SCFv(17b) mimics a biological activity of an HIV coreceptor molecule in binding to gp120.

20-22. (canceled)

23. (previously presented) A protein according to claim 1, wherein the induced epitope comprises at least one coreceptor binding determinant of gp120.

24. (previously presented) A protein according to claim 1, wherein the inducing site is a gp120 CD4 binding site.

25. (currently amended) A protein according to claim 1, wherein the ~~binding domain of the antibody~~SCFv(17b) is capable of binding to at least one coreceptor binding determinant of gp120.

26. (original) A protein according to claim 1, wherein the linker maintains the second binding domain in binding proximity to the induced epitope when the first binding domain is bound to the inducing site.

27. (original) A protein according to claim 26, wherein the linker is substantially flexible.

28. (original) A protein according to claim 26, wherein the linker is 15-100 angstroms (Å) long.

29. (original) A protein according to claim 26, wherein the linker is 10-100 amino acid residues in length.

30. (original) A protein according to claim 26, wherein the linker comprises at least one occurrence of an amino acid sequence as represented by SEQ ID NO: 1.

31. (original) A protein according to claim 1, wherein the linker comprises at least one occurrence of an amino acid sequence represented by SEQ ID NO: 1.

32. (original) A protein according to claim 31, wherein the linker comprises an amino acid sequence represented by SEQ ID NO: 2.

33. (currently amended) ~~The functional recombinant bispecific fusion protein of claim 1, which comprises:~~

~~a) sCD4;~~
~~b) SCFv(17b); and~~
~~c) a The protein according to claim 1, wherein the linker is of a length sufficient to maintain the SCFv(17b) in binding proximity to an SCFv(17b) epitope when sCD4 is bound to gp120.~~

34. (canceled)

35. (withdrawn) An isolated nucleic acid molecule encoding a protein according to claim 34.

36. (withdrawn) A nucleic acid molecule according to claim 35, wherein the nucleic acid sequence is represented by SEQ ID NO: 3.

37. (currently amended) ~~A-The protein of claim 1, wherein the protein is encoded for by the a nucleic acid molecule according to claim 36 having a sequence as set forth in SEQ ID NO: 4.~~

38. (withdrawn) An isolated nucleic acid molecule encoding a protein according to claim 1.

39. (withdrawn) The nucleic acid molecule according to claim 38, having nucleic acid sequence SEQ ID NO: 4.

40-47. (canceled)

48. (previously presented) A composition comprising the protein according to claim 1.

49. (previously presented) A pharmaceutical composition comprising the protein according to claim 1 and a pharmaceutically acceptable carrier.

50-51. (canceled)

52. (currently amended) A kit for treatment and/or prevention of HIV infection, comprising ~~a clinically effective dose of the neutralizing bispecific fusion protein of claim 1 the pharmaceutical composition of claim 49.~~

53. (original) The kit of claim 52, further comprising instructions.

54. (original) The kit of claim 53, wherein the instructions include directions for administering at least one dose of the neutralizing bispecific fusion protein to a subject in need of such treatment.

55. (canceled)